

Attorney Docket No. P12080-US1
Customer Number 27045

CLAIM LISTING

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently Amended) A receiver for receiving an analogue signal in a communication system, where said analogue signal includes signal bursts that are varying within a first signal range, comprising:

at least two signal receiver branches for receiving said analogue signal, wherein the at least two signal receiver branches are arranged to have dynamic ranges that are partly overlapping each other and together cover said first signal range;

means for evaluating digital samples of said signal bursts from said at least two signal receiver branches in accordance with specific threshold levels; and

means for selecting all digital samples corresponding to one signal burst at the same time for further processing in said receiver, and where said one signal burst has been received via one of said at least two signal receiver branches,

wherein said at least two signal receiver branches comprises A/D-conversion means, demodulation means and digital filtering means to generate said digital samples.

2. (Previously Presented) The receiver as claimed in claim 1, wherein said selection means is arranged to make said selection between sampled signal bursts corresponding to the same received signal burst which has been received in parallel by said at least two signal receiver branches.

3. (Previously Presented) The receiver as claimed in claim 1, wherein at least one of said at least two signal receiver branches comprises attenuation means provided to attain said partly overlapping dynamic ranges.

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4. (Previously Presented) The receiver as claimed in claim 3, wherein the attenuation in said attenuation means is selected in such a way that said overlap between said dynamic ranges is at least equal to a defined required minimum signal range for achieving an adequate signal reception performance in said receiver.

5. (Previously Presented) The receiver as claimed in claim 1, wherein one of said at least two signal receiver branches is un-attenuated.

6. (Previously Presented) The receiver as claimed in claim 3, wherein said attenuation means includes a resistor network.

7. (Previously Presented) The receiver as claimed in claim 3, wherein said at least one signal receiver branch that comprises attenuation means also includes amplifying means.

8. (Previously Presented) The receiver as claimed in claim 7, wherein said amplifying means are arranged to amplify digital sampled signal bursts to compensate for the attenuation in said attenuation means.

9. (Canceled).

10. (Previously Presented) The receiver as claimed in claim 1, wherein said means for evaluating said digital samples of said signal bursts includes means for storing said digital samples.

11. (Previously Presented) The receiver as claimed in claim 10, wherein said means for selecting is arranged to use the signal quality of said stored sampled signal bursts to select said sampled signal burst for further processing in said receiver.

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12. (Previously Presented) The receiver as claimed in claim 10, wherein said means for selecting is arranged to compare the signal strength of said stored digital samples with a set of pre-defined threshold levels to select said sampled signal burst for further processing in said receiver.

13. (Canceled).

14. (Previously Presented) The receiver as claimed in claim 1, wherein said means for selecting is arranged to select sampled signal bursts from a first one of said at least two signal receiver branches as long as said sampled signal bursts have a signal strength within a pre-determined signal strength interval or a signal quality within a pre-determined signal quality interval.

15. (Previously Presented) A transceiver, characterised in that said transceiver comprises at least one receiver as claimed in claim 1.

16. (Original) A base station, characterised in that said base station comprises at least one transceiver as claimed in claim 15.

17. (Previously Presented) A radio unit, characterised in that said radio unit comprises at least one receiver as claimed in claim 1.

18. (Currently Amended) A method in a communication system for receiving an analogue signal in a receiver, where said analogue signal includes signal bursts that are varying within a first signal range, and where said receiver comprises at least two signal receiver branches for receiving said analogue signal, the method comprising:

- processing said analogue signal with signal bursts to digital sampled signal bursts in said at least two signal receiver branches where said at least two signal receiver branches are arranged to have dynamic ranges that are partly overlapping each other and together cover said first signal range;

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- evaluating said digital sampled signal bursts from said at least two signal receiver branches in accordance with specific threshold levels; and
- selecting one of said digital sampled signal bursts that has been processed by one of said at least two signal receiver branches for further processing in said receiver, wherein said step of processing said analogue signal to digital sampled signal bursts comprises the following steps:
 - attenuating said analogue signal to an attenuated analogue signal in all signal receiver branches except one, whereby one un-attenuated and at least one attenuated analogue signal are attained;
 - transforming said attenuated and un-attenuated analogue signals to filtered digital sampled signal bursts by I/Q-demodulation, A/D-conversion and digital channel filtering;
 - amplifying said filtered digital sampled signal bursts corresponding to said attenuated analogue signals to amplified digital sampled signal bursts to restore the received signal strength.
 - storing said amplified digital sampled signal bursts and said filtered digital sampled signal bursts corresponding to said un-attenuated analogue signal in a memory in said receiver as said digital sampled signal bursts.

19. (Previously Presented) The method as claimed in claim 18, wherein said step of selecting performs a selection between sampled signal bursts corresponding to the same received signal burst in said analogue signal, and where said signal burst has been received in parallel by said at least two signal receiver branches.

20. (Canceled).

21. (Original) The method as claimed in claim 20, wherein the signal quality of said stored digital sampled signal bursts are used to select said sampled signal burst for further processing in said receiver.

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22. (Previously Presented) The method as claimed in claim 20, wherein the signal strength of said stored digital sampled signal bursts are compared with a set of pre-defined threshold levels to select said sampled signal burst for further processing in said receiver.

23. (Canceled).

24. (Previously Presented) The method as claimed in claim 18, wherein each one of the digital samples is an I/Q-pair and that said step of evaluating comprises the step of calculating the signal amplitude of said I/Q-pairs before said step of selecting.

25. (Currently Amended) A receiver comprising:
a band-pass filter for receiving an incoming analog signal wherein the analog signal includes signal bursts that are varying within a signal range,
an amplifying means in communication with the band-pass filter for amplifying the incoming analog signal from the band-pass filter,
a plurality of signal receiver branches in communication with the amplifying means, wherein each signal receiver branch attenuates and processes the incoming analog signal into a digital signal such that each signal receiver branches have different dynamic ranges,
a memory for storing the digital signals from the plurality of signal receiver branches,
a calculation unit for calculation of signal strength values for each incoming digital signal sample, and
a decision switch for evaluating the signal strength values of the digital signals from the respective signal receiver branches, and for deciding which one of the stored digital signals will be forwarded based on the evaluating for further processing in the receiver.

~~wherein each of the signal receiver branches comprises:~~

~~— an attenuator means for attenuating the amplitude of the incoming analog signal by a unique, predetermined value,~~

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~~an I/Q demodulator to demodulate the analog signal to produce analog I and Q signals,~~
~~an A/D converter for converting the analog I and Q signals to I and Q digital signals,~~
~~a digital signal processor in communication with the memory for filtering and amplification of the digital I and Q signals.~~

26. (New) The receiver of claim 25, wherein each of the signal receiver branches comprises:

an attenuator means for attenuating the amplitude of the incoming analog signal by a unique, predetermined value,
an I/Q-demodulator to demodulate the analog signal to produce analog I- and Q-signals,
an A/D converter for converting the analog I- and Q- signals to I- and Q-digital signals,
a digital signal processor in communication with the memory for filtering and amplification of the digital I- and Q- signals.